SPECTRUM®

Cisco Catalyst 5000/5500 Hub Management Module Guide

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Preface

Use this guide as a reference for the Cisco Catalyst 5000 Hub management software. Before using this guide, you should be familiar with SPECTRUM operation. For the purposes of this guide, the Cisco Catalyst 5000 Hubs are referred to as "devices."

What Is in This Guide

The following outlines the organization of the *Cisco Catalyst 5000 Hub Management Module Guide*.

Chapter	Description
Chapter 1 *Introduction*	Describes the device, the management module and model types. This chapter also provides information on accessing device-specific views.
Chapter 2 *Device Views*	Describes the Device views representing the device.
Chapter 3 *Configuration Views*	Describes the Configuration views for the device and the network management information provided by the views.
Chapter 4 *Event and Alarm Messages*	Lists and explains the event and alarm messages generated in the Event Log or Alarm Manager for the device.
Chapter 5 *Application View*	Describes the Application view and application-specific information for the device.

Conventions

This guide uses the following conventions:

- Menu selections and buttons referenced in text appear in **bold**; for example, **Configuration** or **Detail**.

- Button names appear in shadowed boxes when introducing paragraphs that describe their use; for example:

| Help |

- Menu navigation appears in order of selection; for example, **Icon Subviews -> Utilities -> Application**.

- Referenced chapter titles and section headings appear in *italics*.

- Referenced documents appear in ***bold italics***.

- References in blue are hypertext links for online documents.

- Cisco Catalyst 5000 Hubs are referred to as "devices."

Related SPECTRUM Documentation

When using this guide, you should have a clear understanding of SPECTRUM functionality and navigation techniques as described in the Administration, Operation, and following documentation:

Report Generator User's Guide

Getting Started with SPECTRUM 4.0 for Operators

Getting Started with SPECTRUM 4.0 for Administrators

How to Manage Your Network with SPECTRUM

Other Related Documentation

Refer to the following documentation for more information on managing TCP/IP-based networks:

Martin, James, Kathleen Kavanagh Chapman, Joe Leben. ***Local Area Networks: Architectures and Implementations***, 2d ed. Englewood Cliffs, NJ: Prentice Hall, 1994.

Rose, Marshall T. ***The Simple Book: An Introduction to Management of TCP/IP-based Internets***. Englewood Cliffs, NJ: Prentice Hall, 1991.

Stallings, William. ***Data and Computer Communications***, 4th ed. New York: Macmillan Publishing Company, 1994.

Tanenbaum, Andrew S. ***Computer Networks***, 3d ed. Englewood Cliffs, NJ: Prentice Hall, 1996.

Chapter 1

Introduction

What Is in This Chapter

This chapter introduces the SPECTRUM management module for the Cisco Catalyst 5000/5500 Hubs. It describes the following:

- The Cisco Catalyst 5000/5500 Hubs
- SPECTRUM Model Type
    - Accessing SPECTRUM Views
- SPECTRUM Views Roadmap

The Cisco Catalyst 5000/5500 Hubs

The Cisco Catalyst 5000 is a five slot chassis that provides Copper Distributed Data Interface/multilevel transmission (CDDI/MLT-3) and single/multimode Fiber Distributed Data Interface (FDDI) connectivity. The Cisco Catalyst provides bridging and routing capabilities in a Virtual Local Area Networking (VLAN) environment. Its architecture supports switched connections to the following media:

- 10BaseT and 100BaseT (Fast Ethernet)
- 4/16 Mbps Token Ring
- Copper Distributed Data Interface/Fiber Distributed Data Interface
- Asynchronous Transfer Mode (ATM)

The architecture for the 5000 also supports backbone connections for 100BaseT, CDDI/FDDI, and ATM.

The Catalyst 5500 is a 13 slot chassis that serves as a high-end switching platform. Depending on the modules installed, the Catlayst 5500 can be used in backbone applications as a scaleable Fast Ethernet or ATM switch. The Catalyst 5500 also supports switched Ethernet, Token Ring and ATM modules as well as existing Catalyst 5000 and LightStream 1010 modules.

NOTE

The Catalyst 5500 does not have management support for LightStream boards. To manage these boards the Cisco Lightstream 1010 must be installed in slot number 13 of the Catalyst 5500 chassis.

SPECTRUM Model Type

SPECTRUM allows you to monitor and manage network devices such as hubs, routers, and switches through software **models** (see the Administrator's Reference for Modeling Instructions) of these devices and their associated applications. The models you create reside in the SpectroSERVER database, where they are updated continually with information gathered by polling the actual devices.

Models are represented visually by **icons** that appear in various views in SpectroGRAPH. Icons representing devices provide at-a-glance, color-coded status information. Both device icons and application icons also provide mouse-click access to other views that contain detailed configuration and performance information.

SPECTRUM **management modules** are software packages that provide templates for creating software models of particular devices or families of devices. Management modules also include templates for modeling the applications supported by these devices. Each template, called a model type, specifies attributes that correspond to objects defined in the Management Information Bases (MIBs) that govern the operation of the device or application to be modeled.The model type names for the Cisco Catalyst 5000/5500 Hubs are:

- HubCat5000
- HubCat5500

Refer to the ***How to Manage Your Network with SPECTRUM*** guide for modeling instructions.

Accessing SPECTRUM Views

Icons and Labels that display information within and icon provide access to SPECTRUM views. This is done through double-click zones (Figure 1-1), and Icon Subviews menu selections (Figure 1-2).

To access the Icon Subviews menu as shown in Figure 1-2, do the following:

1. Highlight the icon or label.

2. From the View menu, select **Icon Subviews** or click the applicable mouse button (middle or right). Refer to the ***Getting Started with SPECTRUM for Operator's*** guide for information on configuring your mouse.

Figure 1-1.   **Using Double-Click Zones to Access SPECTRUM Views**

Accesses the Configuration view; see
Chapter 3, *Configuration Views*

Accesses the Device Topology view;
refer to the ***SPECTRUM Views***
guide.

Model Name

HubCat5000

Accesses the Device view; see
Chapter 2, *Device Views*.

Accesses the Performance view;
refer to the ***SPECTRUM Views***
guide.

Accesses the Application view; see
Chapter 5, *Application View*.

Accesses the Configuration view; see
Chapter 3, *Configuration Views*

Accesses the Device view; see
Chapter 2, *Device Views*.

Model Name

HubCat5000

Accesses the Performance view;
refer to the ***SPECTRUM Views***
guide.

Accesses the Device Topology view;
refer to the ***SPECTRUM Views***
guide.

Accesses the Application view; see
Chapter 5, *Application View*.

Figure 1-2. **Using the Icon Subviews Menu to Access SPECTRUM Views**
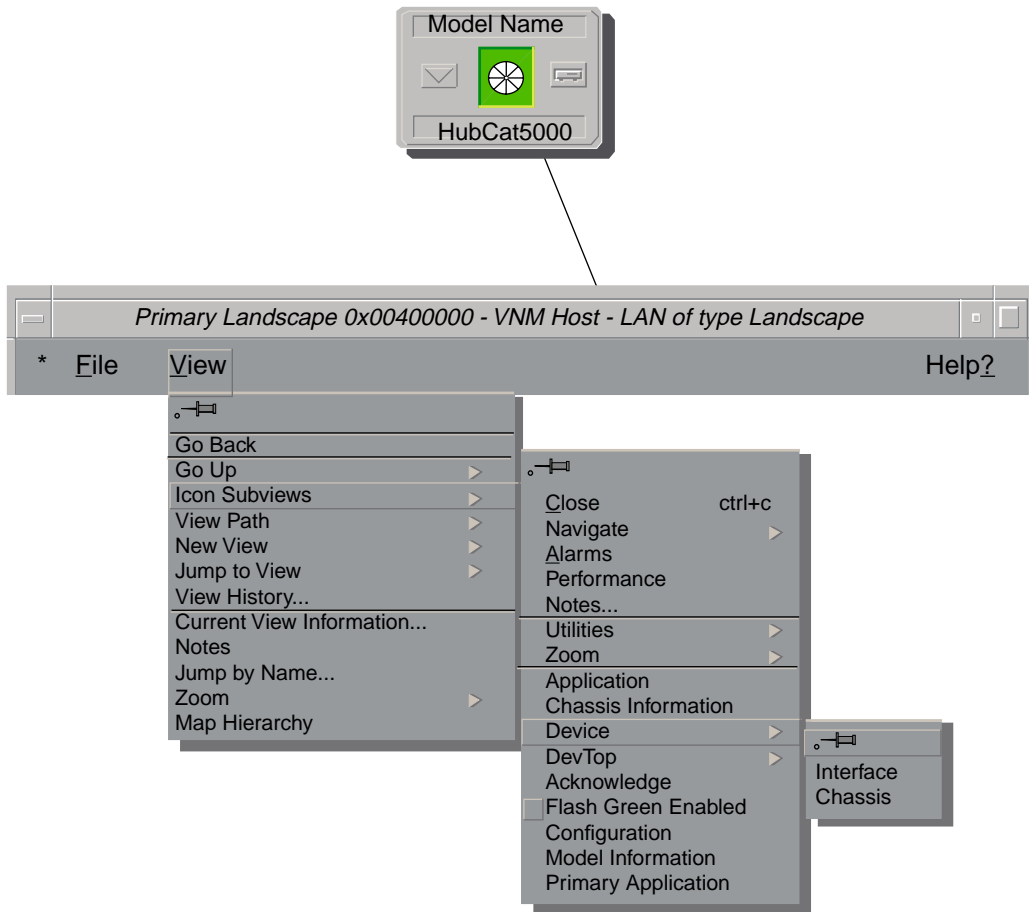
Figure 1-3. **Accessing Module-Specific Subviews**
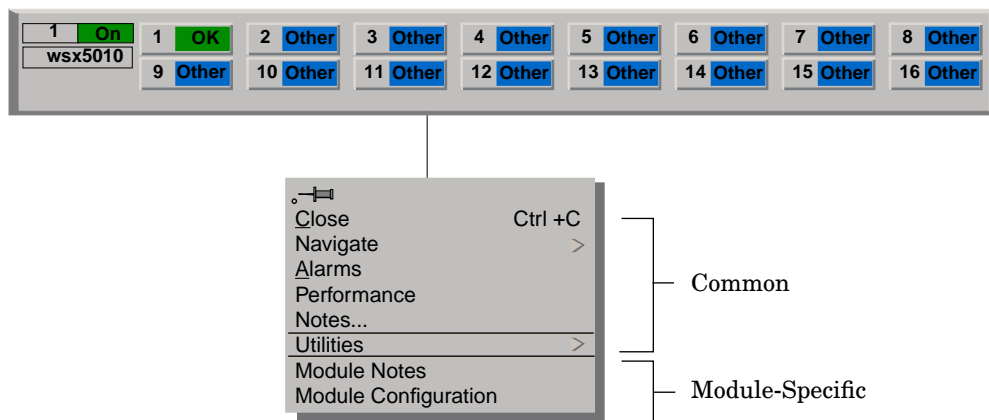
SPECTRUM Views Roadmap

Figure 1-4 shows a "roadmap" of the SPECTRUM views for this device. These views are accessible from double-click zones (Figure 1-1) and Icon Subviews menus (Figure 1-2, and Figure 1-3).

Figure 1-4.   SPECTRUM Views Roadmap
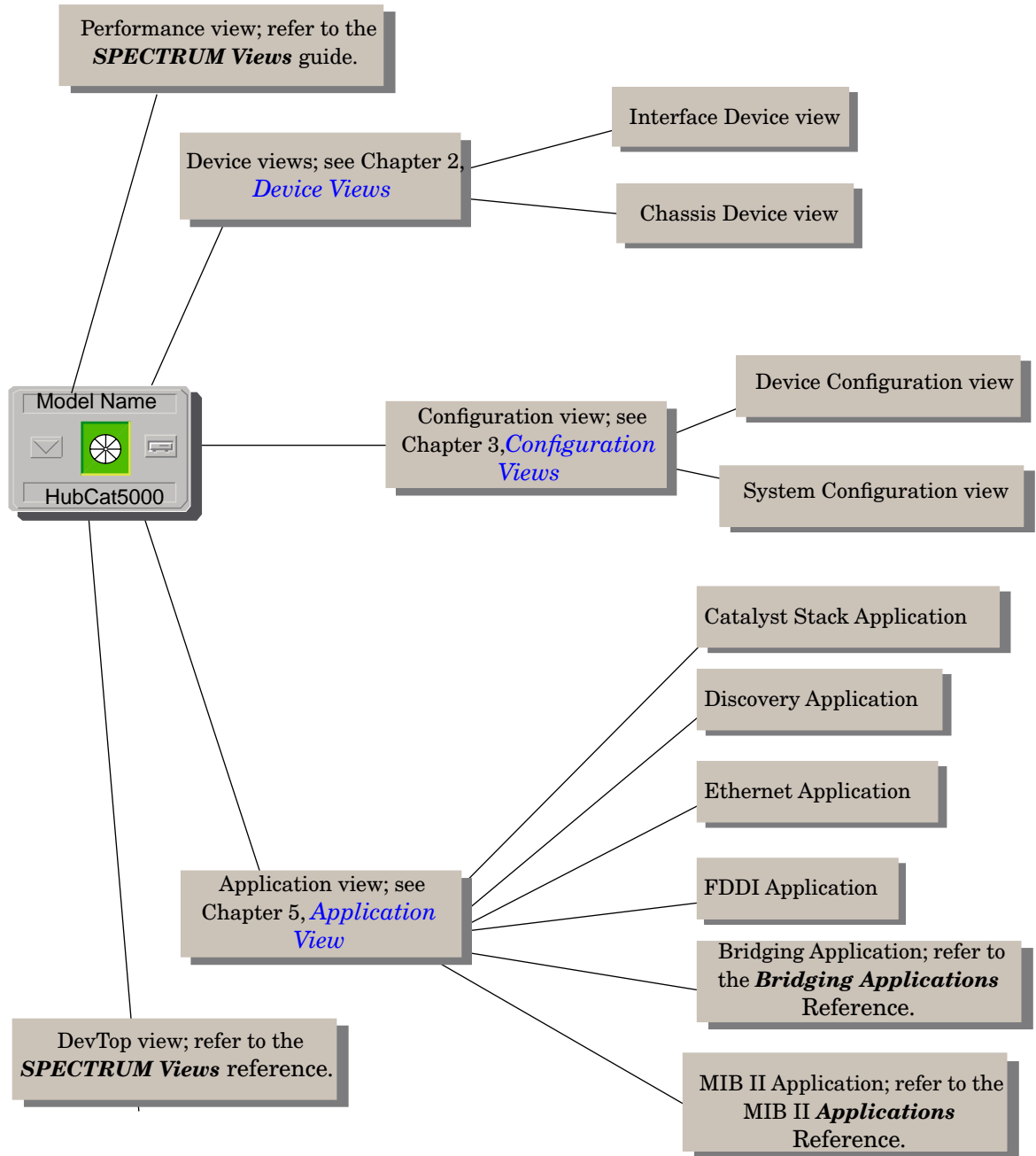
Chapter 2

Device Views

What Is in This Chapter

This chapter describes the following Device views and subviews available for the Cisco Catalyst 5000/5500 Hubs:

- *Interface Device View*
- *Chassis Device View*

See Chapter 1, *Introduction*, for information on *Accessing SPECTRUM Views*.

Interface Device View

This section describes the Interface Options panel and the Interface icons displayed in the Interface Device view. This view provides dynamic configuration and performance information for each interface on this device. If the configuration changes, SPECTRUM modifies the Device view after the next polling cycle to reflect the new configuration. This view also provides a Device icon which allows you to monitor the device's operation and access other device-specific views. Figure 2-1 shows an example of the Interface Device view.

Figure 2-1. **Interface Device View**
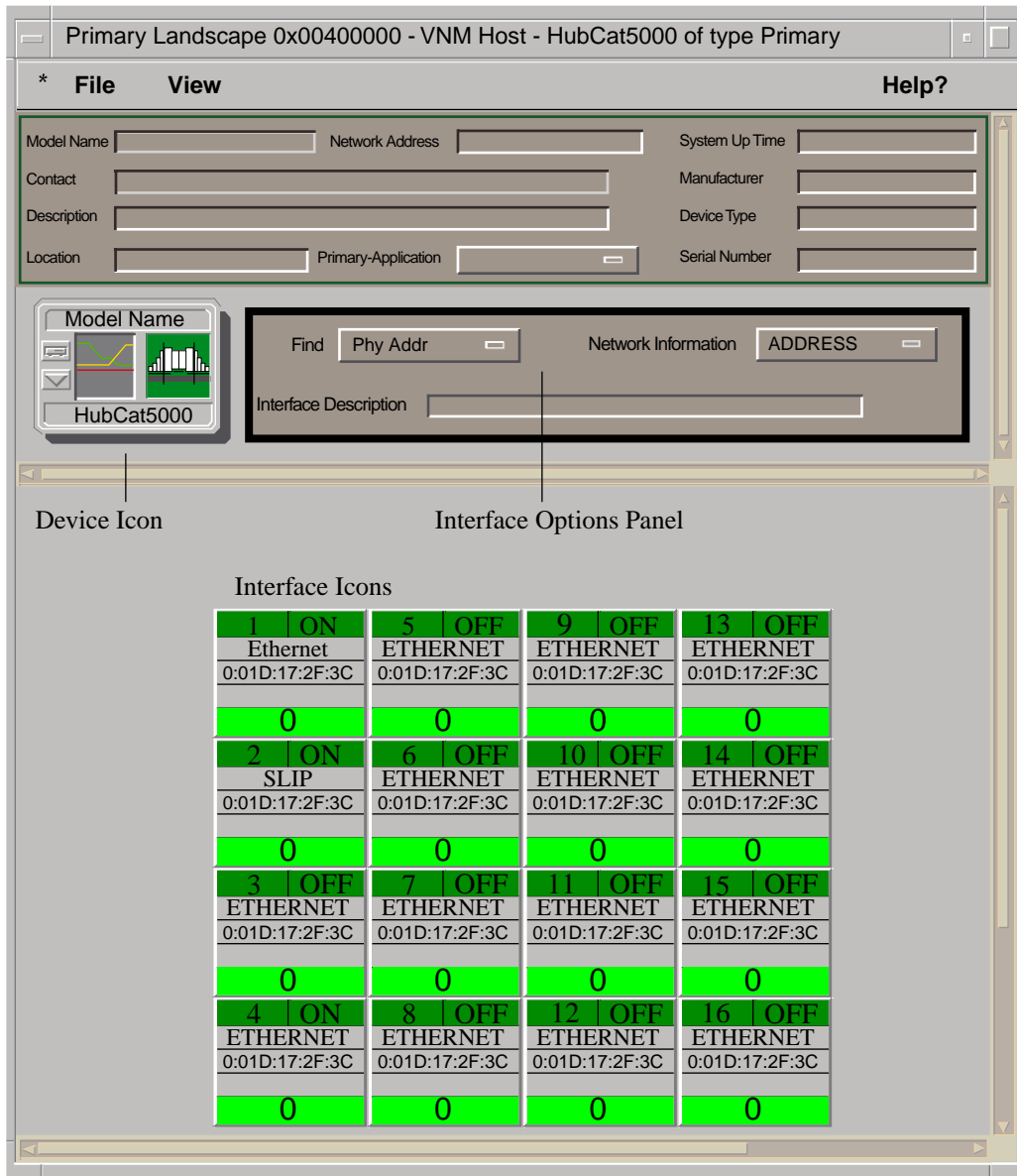
Interface Icons

These icons represent the interfaces or ports for this device. The icons identify the type of interface or port and provide statistical information. Figure 2-2 shows an example of an interface icon, its Icon Subviews menu, and its labels/double-click zones.

> **NOTES**
>
> The callouts (a through f) displayed in the illustration below identify the label and the view to which it provides double-click access. Example: Administrative Status Label/IF Status view displays the administrative status and provides double-click access to the IF Status view.
>
> The menu displayed in the illustration is the Icon Subviews menu for that Interface icon.

Figure 2-2.   Interface Icon
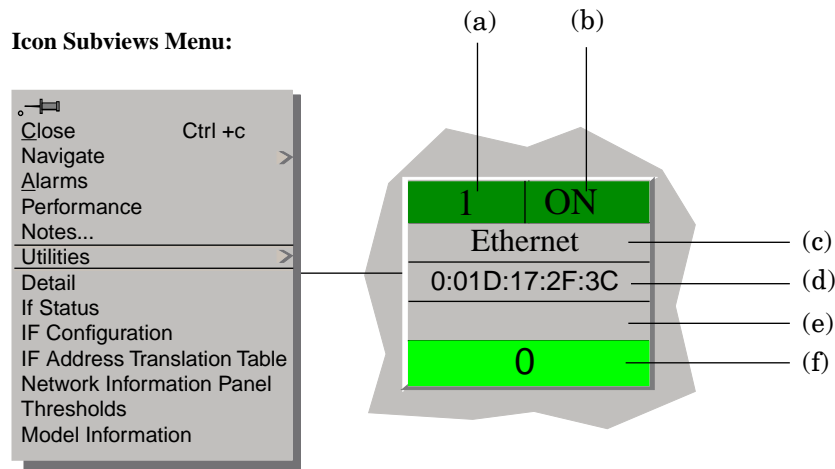
a.   Interface Label

b.   Administrative Status Label/Interface Status View

c.   Interface Type Label/Interface Configuration View

d.   MAC Address Label/Interface Address Translation Table

e.   Network Information Label/Network Information Panel

f.   Gauge Label/Performance View

Interface Label

This label displays the interface (port) number.

Administrative Status Label

This label displays the status of this interface. Double-click this label to open the Interface Status view which allows you to view the operational state of that interface, and select the administrative status (enable or disable the port). Table 2-1 lists the possible states and their descriptions.

Table 2-1.   **Administrative Status Label Descriptions**

Color	Status	Description
Green	ON	Port is operational.
Blue	OFF	Port is off.
Yellow	TESTING	Port is in the test mode.

Interface Type Label

This label displays the interface type. Some of the possible interface types are Ethernet, FDDI, T1, PPP, and Reg1822.

MAC Address Label

This label displays the MAC address of this device. Double-click this label to open the Interface Address Translation table.

Interface Address Translation Table

This table cross-references device IP addresses to device MAC (Physical) addresses for selected nodes between networks. Double-click any column entry to open an address-specific Address Translation Table Information view. The Interface Address Translation Table provides the following information:

Interface Index
A list of interfaces held by the device.

Physical Address
Displays the physical (MAC) address of the interface.

Network Address
Displays the IP address assigned to the interface.

Network Information Label

This label displays user-selectable network information (Address, Name, or Mask). The default is Address.

To change this label's display, use the Interface Options Panel described later in this chapter, or do the following:

1. Double-click the label to open the Network Information Panel.

2. Click the network information entry you wish to display.

3. Click **OK**.

Gauge Label

This label displays the performance statistic determined by the Gauge Control Panel for this interface. (See the *Gauge Control Panel* later in this chapter for more information.) Double-click this label to open the Performance view described in the **SPECTRUM Views** reference.

Interface Options Panel

This area of the Interface Device view allows you to modify the presentation of a highlighted Logical Interface icon. Double-click a non-text area of this panel to open the Gauge Control Panel, described later in this section. The Interface Options panel provides the following information:

Find
This button allows you to find an entry. Click **Find** to open the text entry dialog box. In the Dialog Box, enter the string to search for. Not all column headings will activate the Find button.

Network Information
This menu button allows you to select the type of information displayed in the Network Information label of the highlighted icon. Possible selections are ADDRESS, NAME, or MASK.

Interface Description
This field provides a description of the highlighted interface. If no interface is highlighted, this field is empty.

Gauge Control Panel

This panel (Figure 2-3) allows you to change the type of statistical information displayed on the Gauge label of the Interface icon. To access the Gauge Control Panel double-click the background of the Interface Options panel or do the following:

1. Highlight the Interface Options panel.

2. From the View menu, select **Icon Subviews -> Gauge Control Panel**.

Figure 2-3.   **Gauge Control Panel**
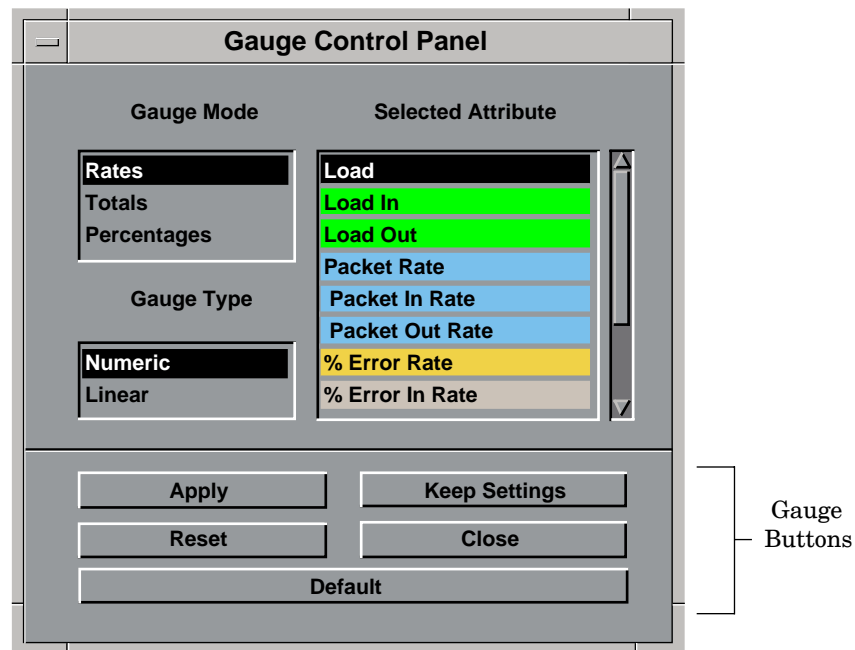
The Gauge Control Panel provides the following:

- Gauge Mode
- Selected Attribute
- Gauge Type
- Gauge Buttons

Gauge Mode
This area allows you to select the type of information shown on the Gauge Label of the interface icon: Totals, Rates, or Percentages. The Percentages selection displays the percentage of the selected interface compared to the rest of the interfaces.

The color displayed on the Gauge Label depends upon the particular mode and statistical attribute selected. Table 2-2 and Table 2-3 provide a list of attributes and their corresponding colors for the Totals mode and Rates mode respectively.

Table 2-2. **Totals Gauge Mode: Attributes and Corresponding Color**

Selected Attribute	Color
In Errors	Orange
Out Errors	Orange
In Packets	Blue
Out Packets	Blue
Unknown Protocols	Yellow
In No Resource	Tan
Out No Resource	Tan
In Octets	Green
Out Octets	Green

Table 2-3. **Rates Gauge Mode: Attributes and Corresponding Color**

Selected Attribute	Color
Load	Green
Load In	Green
Load Out	Green
Packet Rate	Blue
Packet In Rate	Blue
Packet Out Rate	Blue
Error Rate	Orange
Error In Rate	Orange
Error Out Rate	Orange
Discard Rate	Tan
Discard In Rate	Tan
Discard Out Rate	Tan

Selected Attribute
This area of the Gauge Control Panel allows you to select the statistical attribute displayed on the Interface icon's Gauge label. The label changes color to reflect the attribute selected.

Gauge Type
This area of the Gauge Control Panel allows you to select either a numeric or linear display on the Gauge Label.

Gauge Buttons
This area of the Gauge Control Panel provides the following buttons:

| Apply |

Applies the current settings to the Gauge label temporarily, but does not save the settings.

| Reset |

Returns the settings to the previously saved values.

| Keep Settings |

Saves the current settings while SpectroGRAPH is running. Settings return to default when you restart SpectroGRAPH.

| Close |

Closes the Gauge Control Panel.

| Default |

Returns the settings to the SPECTRUM default.

Chassis Device View

This view provides information about the device and the modules it manages. The Chassis Device view is divided into two sections. The top section provides information about the Cisco Catalyst 5000/5500 Hub as a whole. The bottom section provides information about the individual modules installed in the chassis. Figure 2-4 shows an example of the Chassis Device view for this device.

Figure 2-4.   Cisco Catalyst 5000 Chassis Device View
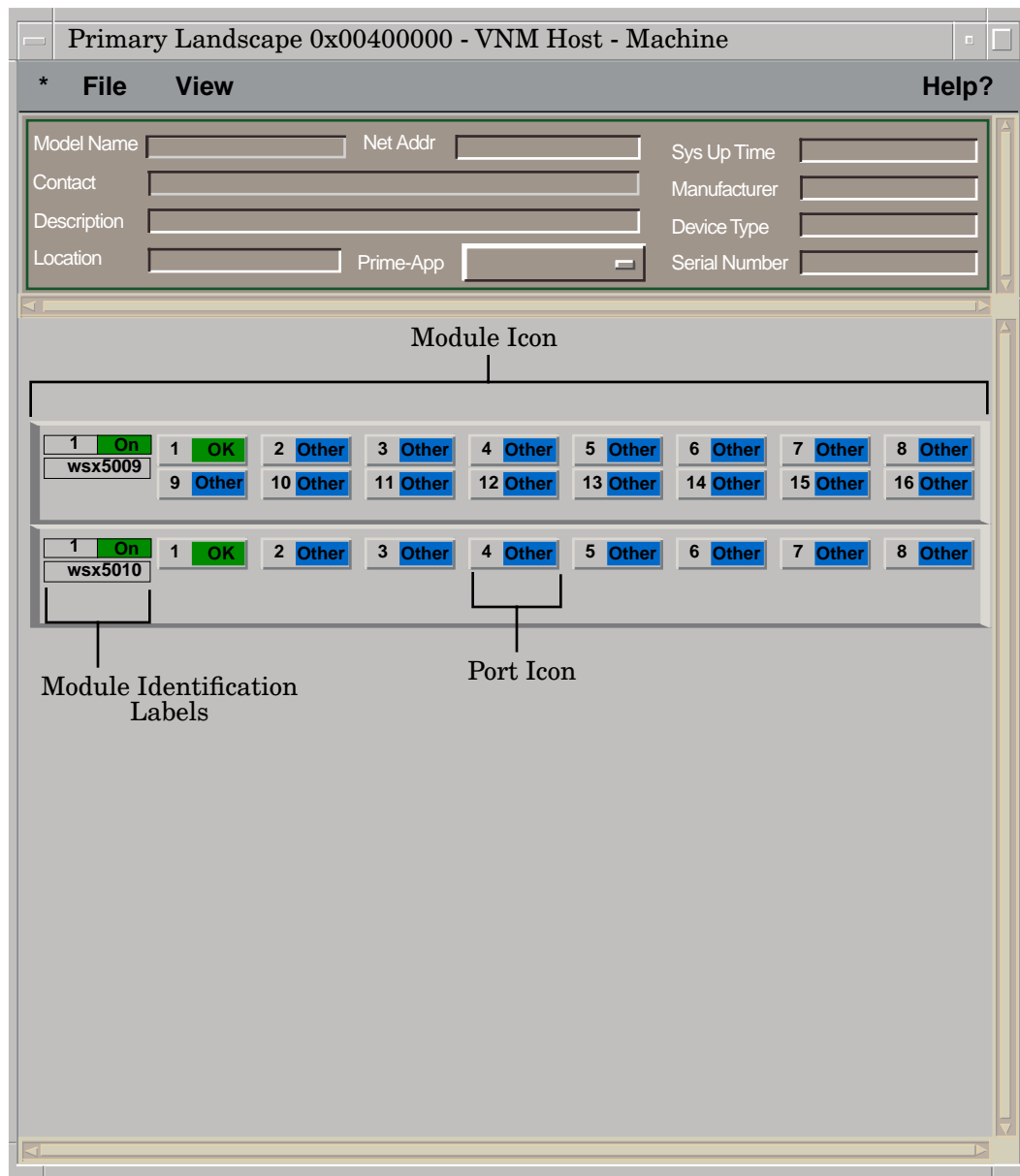
Module Icons

These icons represent the modules inserted into the chassis. The icons identify the type of interface or port and provide statistical information. Figure 2-5 shows an example of a Module icon.

Figure 2-5.   **Module Icon**
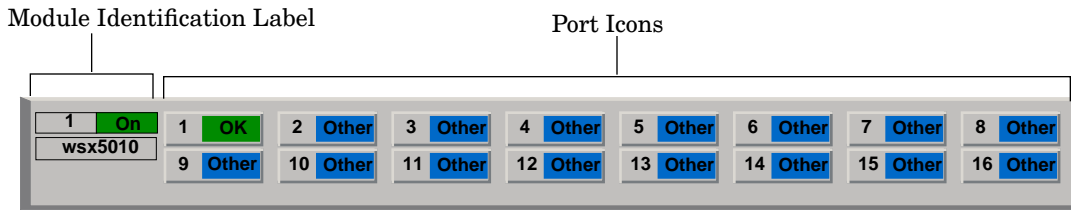
Figure 2-6 shows the Module Identification labels and the views accessed from the Icon Subviews menu.
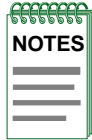
> **NOTES**
>
> The callouts displayed in the illustration below identify the label and the view to which it provides double-click access. Example: Module Number Label/Module Notes view displays the Module Number and provides double-click access to the Module Notes view.
>
> The Icon Subviews menu is specific to the icon selected.

Figure 2-6.   **Module Identification Labels and Click Zones**
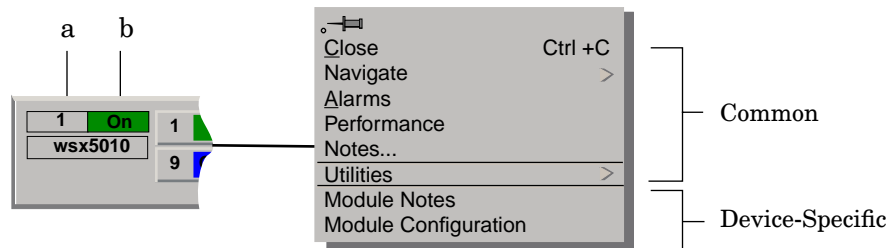
a. Module Number Label/Module Notes

b. Module Status Label/Module Table View

Module Number Label

This label displays the module number. Double-click the Model Number label to access the Module Notes view used for recording module-specific notes, or:

1. Within the Chassis Device view (Figure 2-4) highlight the Module icon.

2. From the Icon Subviews menu, select **Module Notes**.

Module Status Label

This label displays the status of the module. Possible states are On, Off and Test. Double-click the Module Status label of the Module Icon to access the Module Table view, or do the following:

1. Within the Chassis Device view (Figure 2-4) highlight the Module icon.

2. From the Icon Subviews menu, select **Module Configuration**.

Module Table View

This view displays module specific configuration information. It is divided into the two sections described below.

Module

This area of the Module Table view provides the following information:

Index
Displays the slot number in which this module is inserted in the chassis. Valid entries are 1 to the maximum number of slots in this chassis.

Type
Displays the type of module.

Serial Nbr
Displays the serial number for this module.

Name
Displays the user-defined or default model name for this module.

Status
Displays the current status of this module. Table 2-4 shows the possible states.

Table 2-4. **Module Status Descriptions**

Color	Status	Description
Blue	Other	None of the following
Green	OK	Status is okay
Yellow	MinorFault	Minor problem
Red	MajorFault	Major problem

Num Ports
Displays the number of ports supported by this module.

Action

This button allows you to initiate action on the module. Reset causes the module's control logic to be reset. Enable or Disable activates or deactivates the module. Other results in an error. After an action has been initiated, this button displays the Other option.

The following additional fields appear in this view:

Sub Type
Shows the type of daughterboard attached to this module. Possible types are Other and Empty.

Test Results
Displays the test results from the last completed self test of this module. A zero indicates that the module passed all tests. Bits set in the result indicate error conditions. Refer to the hardware documentation for definitions of the error conditions.

Versions

This area of the Module Table view provides the following information:

Hardware
Displays the hardware version for this module.

Firmware
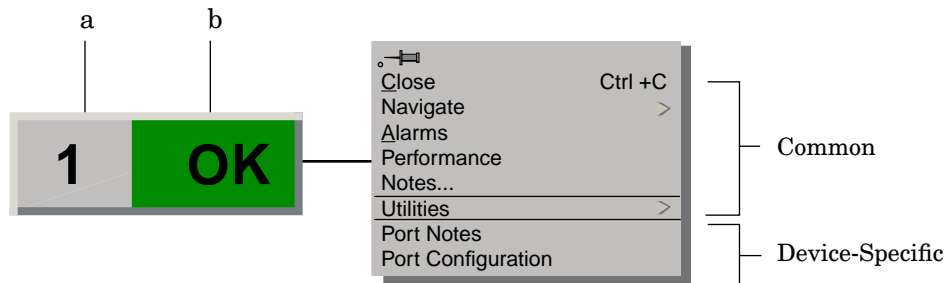Displays the firmware version for this module.

Software
Displays the software version for this module.

Port Icons

This label represents a port or interface on the module within this device. Figure 2-7 shows an example of a port icon, its Icon Subviews menu, and its double-click zones.

Figure 2-7.   **Port Label**

a.   Port Number Label/Port Notes

b.   Port Status Label/Port Table View

Port Number Label

This label displays the port number. Double-click the Port Number Label to access the Port Notes view, used for recording port-specific notes, or:

1.   Within the Chassis Device view (Figure 2-4) highlight the Port icon.

2.   From the Icon Subviews menu, select **Port Notes**.

Port Status Label

This label displays the status of the port. This label also displays the device port types. Some of the possible types are; Other, CDDI, FDDI, etc. Double-click the Port Status label of the Port Icon to access the Port Table view, or do the following:

1.   Within the Chassis Device view (Figure 2-4) highlight the Port icon.

2.   From the Icon Subviews menu, select **Port Configuration**.

Port Table View

This view provides the following information:

Module
Displays the slot number in which this module is inserted in the chassis. Valid entries are 1 to the maximum number of slots in this chassis.

Type
Displays the port type in terms of the medium it supports.

Speed
Displays the base speed of this port in bits per second.

Name
Displays the default model name for this module.

Index
Displays the port number.

Status
Displays the current status of this module. Table 2-5 shows the possible states:

Table 2-5.   **Port Status Definitions**

Operational Status	Administrative Status	Text Display	Color
ON	ON	ON	Green
OFF	OFF	OFF	Blue
OFF	ON	OFF	Yellow
Testing	Testing	Test	Red

Additional Status
Displays an integer representing additional information on the status of this port. Table 2-6 provides definitions of the additional status values.

Table 2-6.   **Additional Status Definitions**

Additional Status Value	Definition
0	Initial Value, or no activity was detected on the port in the last polling period.
1	At least one packet was transmitted by the port in the last polling period. No packets were received and no collisions were detected.

Table 2-6. **Additional Status Definitions (Continued)**

2	At least one packet was received by the port in the last polling period. No packets were transmitted and no collisions were detected.
3	At least one packet was transmitted, and at least one packet was received in the last polling period. No collisions were detected.
4	At least one collision was detected on the port in the last polling period. No packets were transmitted and no packets were received.
5	At least one packet was transmitted, and at least one collision was detected in the last polling period. No packets were received.
6	At least one packet was received, and at least one collision was detected in the last polling period. No packets were transmitted.
7	At least one packet was transmitted, at least one packet was received, and at least one collision was detected in the last polling period.

Configuration Views

What Is in This Chapter

This chapter describes the following Configuration views available for the device and its interfaces. These views display network configuration and operating information.

- *Device Configuration View*
- *Interface Configuration View*
- *Catalyst Stack System Configuration View*

See Chapter 1, *Introduction*, for information on *Accessing SPECTRUM Views*.

Device Configuration View

This view provides two areas of information on the configuration and operating status of this device. They are described in the following sections.

Device Configuration Information

This section of the Device Configuration view displays the following device-specific information:

Device Name
Displays the user-defined or default name for this device.

Contact Status
Displays the status of the device. Possible states are Established, Lost, or Initial.

Number of Interfaces
Displays the number of ports for the device.

Router Redundancy
This button allows you to enable (true), or disable (false) redundancy for this interface. By default it is set to be true.

IF Address Translation

This button accesses the IF Address Translation Table. This table cross-references device IP addresses to device MAC (Ethernet) addresses for selected nodes between networks. Double-click a column entry to open an address-specific Address Translation Table Information view, which allows you to alter the index or addresses.

Reconfigure

This button allows you to update the Device Configuration view to reflect any changes that have been made to the devices in the chassis.

Interface Configuration Table

This table within the Device Configuration view provides the following configuration information for the device and each port:

Index
Displays the interface or port number.

Description
Provides a description of the interface or port.

Type
Displays the type of hardware interface or port. Some of the possible types are Ethernet, FDDI, T1, PPP, and Reg1822.

Bandwidth
Displays the estimated bandwidth of the interface measured in bits per second. For interfaces that do not vary in bandwidth, or for which no accurate estimate can be made, a nominal bandwidth is provided

Physical Address
Displays the physical (MAC) address of the interface or port.

Operation Status
Displays the current operational state of this interface or port (Up, Down, or Testing).

Admin. Status
Displays the administrative status for this interface. Possible states are: On, Off, and Testing.

Last Change
Displays the value of sysUpTime at the time the interface entered its current operational state. If the current state was entered prior to the last re-initialization of the local network management subsystem, then this object contains a zero value.

Queue Length
Displays the length of the outbound packet queue in packets.

Packet Size
Displays the largest Maximum Transmission Unit (MTU) that can be transmitted or received by the port, measured in octets.

Interface Configuration View

This view provides device configuration information.

To access this view, do the following:

1.   Within the Interface Device view, highlight the Interface icon.

2.   From the Icon Subviews menu, select **IF Configuration**.

This view provides the following information:

Operation Status
Displays the current operating status of the interface or port. Possible values are On, Off, and Testing.

Admin. Status
Displays the current administrative state of the interface or port. Possible values are On, Off, and Testing.

Last Change
Displays the value of sysUpTime at the time the interface entered its current operational state. If the current state was entered prior to the last re-initialization of the local network management subsystem, then this object contains a zero value.

Network Name/Address
Displays the network name/address for this interface or port.

Physical Address
Displays the physical (MAC) address of the interface or port.

Bandwidth
Displays the estimated bandwidth of the interface measured in bits per second. For interfaces that do not vary in bandwidth or for which no accurate estimate can be made, a nominal bandwidth is provided.

Packet Size
Displays the largest Maximum Transmission Unit (MTU) that can be transmitted or received by the port, measured in octets.

Queue Length
Displays the length of the outbound packet queue in packets.

Catalyst Stack System Configuration View

This view and its subviews provide device configuration information.

To access this view, do the following:

1. Within the Application view, highlight the CATStackApp icon (icon mode) or model type name (list mode).

2. From the Icon Subviews menu, select **Configuration**.

This view provides the following information:

Mgmt Type
Displays the type of network management running on the device. Possible management types include: "Other" (none of the following), "snmpV1", "smux" (SNMP MUX sub-agent), and "snmpV2V1" (bi-lingual SNMP).

Net Mask
Displays the subnet mask for the device.

Broadcast
Displays the broadcast address of the device.

Baud Rate
Displays the baud rate of the device's RS-232 port in bits per second.

Clear Mac Time
Displays the amount of time (in hundredths of a second) since the MAC counters were last cleared.

Clear MAC

Allows you to initiate the clearing of the MAC counters and to reset the Clear MAC value to zero.

Clear Port Time
Displays the amount of time, displayed in hundredths of a second, since the port counters were last cleared.

Clear Ports

Allows you to initiate the clearing of the port counters and to reset the Clear Port value to zero.

Attach Type
This button allows you to change the attachment type of the FDDI connection to the device. Table 3-1 shows the possible attachment types. New attach type settings will not take effect until the concentrator is reset.

Table 3-1. **Possible Attach Types**

Attach Type	Definition
Other	None of the following.
DualAttach	The first FDDI port is configured as an A port, the second as a B port.
SingleAttach	The first FDDI port is configured as an S port, the second as an M port.
NullAttach	The first two FDDI ports are configured as M ports.

Insert Mode
This button allows you to select the mode for inserting M-ports into the concentrator ring. Possible insertion modes are: Other (none of the following), Standard, Scheduled, and Graceful.

Reset
This button allows you to initiate a reset of the control logic of all modules in the device. The default is Other.

Traffic
Displays the value of the traffic meter, shown as a percentage of bandwidth utilization on the network for the previous polling interval.

Enable Redirects
Allows you to select whether the device is able to send or receive ICMP redirect messages.

Enable Modem
Allows you to select whether this device's RS-232 port modem control lines are enabled or disabled.

Enable Rmon
Allows you to select whether this SNMP agent supports the RMON MIB.

ARP Aging Time
Displays the aging Time in milliseconds for the ARP Table.

Chassis

Opens the Catalyst Stack Chassis Information view described later in this section.

Modules

Opens the Catalyst Stack Modules Table, described later in this section.

Ports

Opens the Catalyst Stack Ports Table described later in this section.

Catalyst Stack Chassis Information View

This view provides information about the physical device. To access this view, click the **Chassis** button in the Catalyst Stack System Configuration view. The Chassis Information view provides the following information:

Chassis

This section of the Chassis Information view provides the following hardware information about the device:

Model
Displays the manufacturer's model number for the chassis.

System Type
Displays the type of chassis system. Table 3-2 lists the possible system types for this device.

Table 3-2. **Possible System Types for the Cisco Catalyst 5000/5500**

System Type	Description
wsx5009	Supervisor Module, 2 100BaseTX
wsx5013	24 port 10BaseT
wsx5011	12 Port 10BaseFL Multi Mode
wsx5010	24 Port 10BaseT
wsx5113	12 port 100BaseTX

Table 3-2. **Possible System Types for the Cisco Catalyst 5000/5500**

wsx5101	1 Dual Attach Multi Mode FDDI
wsx5103	1 Dual Attach CDDI
wsx5104	1 Dual Attach Single Mode FDDI
wsx5105	1 Dual Attach Multi Mode FDDI
wsx5155	1 Port Multi Mode OC-3 ATM
wsx5154	1 Port Single Mode OC-3 ATM
wsx5153	1 Port UTP OC-3 ATM
wsx5111	12 Port 100BaseFX Multi Mode
wsx5213	12 Port 10/100BaseTX
wsx5020	48 Port 4 Segment 10BaseT
wsx5006	Supervisor Module, 2 100BaseFX Multi Mode
wsx5005	Supervisor Module, 2 100BaseFX Single Mode
wsx5509	Supervisor Module II, 2 100BaseTX
wsx5506	Supervisor Module II, 2 100BaseFX Multi Mode
wsx5505	Supervisor Module II, 2 100BaseFX Single Mode
wsx5156	1 Dual Phy UTP OC-3 ATM
wsx5157	1 Dual Phy Single Mode OC-3 ATM
wsx5158	1 Dual Phy Multi Mode OC-3 ATM
wsx5114	6 Port Single Mode 6 Port Multi Mode 100BaseFX
wsx5223	24 Port 3 Segment 100BaseTX
wsx5224	24 Port 10/100BaseTX
wsx5012	48 Port 10BaseT
wsx5302	VLAN Router
wsx5213a	12 Port 10/100BaseTX
wsx5201	12 Port 100BaseFX Multi Mode
wsx5203	12 Port 10/100BaseTX

Backplane
Displays the chassis backplane type for the device. Possible backplane types are Other, FDDI, and FDDI+Ethernet.

Number Slots
Displays the number of slots for plug-in modules in the device.

Power Supplies

This section of the Chassis Information view provides the following
information about the devices power supplies:

#1 Type
Displays the type of power supply installed as the first power supply for the
device. Possible power supply types are: Other, None, 50w, 200w, 600w, 80w,
and 130w.

#1 Status
Displays the current status of the power supply installed as the first power
supply. Possible states are: Other, OK, MinorFault, and MajorFault. For more
information on fault conditions, refer the Test Results field.

#1 Test Results
Displays the current status of the test result for the power supply installed as
the first power supply. A zero indicates that the power supply passed all tests.

#2 Type
Displays the type of power supply installed as the second power supply for the
device. Possible power supply types are: Other, None, 50w, 200w, 600w, 80w,
and 130w.

#2 Status
Displays the current status of the power supply installed as the second power
supply. Possible statuses are: Other, OK, MinorFault, and MajorFault.

#2 Test Results
Displays the current status of the test result for the power supply installed as
the second power supply. A zero indicates that the power supply passed all
tests.

Fan

This section of the Chassis Information view provides the following
information about the device's cooling fan:

Status
Displays the current status of the device's fan. Possible states are Other, OK,
MinorFault, and MajorFault.

Test Result
Displays the test results from the last completed test of the device's fan. A
zero indicates that the fan passed all tests. Refer to your hardware's
documentation for definitions of the error conditions.

Alarms

The Alarms portion of the Chassis Information view provides information about any physical status alarms detected for the device. Possible alarm states for each of the fields listed below are Off and On.

Temp
Displays the current status of the temperature alarm for this device.

Minor
Displays the current status of the minor alarms for this device.

Major
Displays the current status of the major alarms for this device.

Catalyst Stack Modules Table

This table provides module identification information. To access the Catalyst Stack Modules table, click the **Modules** button in the Catalyst Stack System Configuration view. Double-click any table entry to access the Catalyst Stack Module Table view for that entry. The Catalyst Stack Modules table provides the following information for each module:

Index
Displays the slot number in which this module is inserted in the chassis. Valid entries are 1 to the maximum number of slots in this chassis.

Type
Displays the type of module.

Serial Nbr
Displays the serial number for this module.

Status
Displays the current status of this module. Table 3-3 shows the possible states.

Table 3-3. **Module Status Descriptions**

Color	Status	Description
Blue	Other	None of the following
Green	OK	Status is ok
Yellow	MinorFault	Minor problem
Red	MajorFault	Major problem

Name
Displays the user-defined or default model name for this module.

Ports
Displays the number of ports for the module.

Model
Displays the manufacturer's model number for the chassis.

Sort On
This button allows you to select one of the table column headings as a sort key.

Order
This button allows you to sort the table in ascending or descending order within the selected Sort On category.

Catalyst Stack Ports Table

This table provides the list of port entries determined by the number of modules in the chassis and the number of ports in each module. To access the Catalyst Stack Ports table, click the **Ports** button in the Catalyst Stack System Configuration view.

Double-click any table entry to access the entry-specific Port Table view, described in Chapter 2, *Device Views*.

The Catalyst Stack Ports table provides the following information:

Module
Displays the unique integer identifier of the module where this port is located. This number is the same as the slot number in which the module is installed.

Index
Displays the unique integer identifier of this port within its module. This value is determined by the location of the port on the module.

Name
Displays the user-defined name assigned to this port.

Type
Identifies the port in terms of the medium it supports. Table 3-4 lists the possible port types.

Table 3-4.   **Possible Port Types**

Port Type	Description
Other	None of the following
cddi	CDDI (UTP FDDI)
fddi	Multi Mode fiber FDDI
tppmd	ANSI standard UTP FDDI

Table 3-4.   **Possible Port Types (Continued)**

mlt3	MLT-3 UTP FDDI
sddi	STP FDDI
smf	Single Mode fiber FDDI
E10BaseT	UTP Ethernet
E10BaseF	Fiber Ethernet
E100BaseTX	Fast UTP Ethernet
scf	Small-connector fiber FDDI

Status

Displays the current operational state of this port. Possible states are Other, Ok, MinorFault, and MajorFault.

Additional Status

Displays an integer representing additional information on the status of this port. Table 3-5 provides definitions of the additional status values.

Table 3-5.   **Additional Status Definitions**

Additional Status Value	Definition
0	Initial Value, or no activity was detected on the port in the last polling period.
1	At least one packet was transmitted by the port in the last polling period. No packets were received and no collisions were detected.
2	At least one packet was received by the port in the last polling period. No packets were transmitted and no collisions were detected.
3	At least one packet was transmitted, and at least one packet was received in the last polling period. No collisions were detected.
4	At least one collision was detected on the port in the last polling period. No packets were transmitted and no packets were received.
5	At least one packet was transmitted, and at least one collision was detected in the last polling period. No packets were received.
6	At least one packet was received, and at least one collision was detected in the last polling period. No packets were transmitted.
7	At least one packet was transmitted, at least one packet was received, and at least one collision was detected in the last polling period.

Sort On
This button allows you to select one of the table column headings as a sort key.

Order
This button allows you to sort the table in ascending or descending order within the selected Sort On category.

Event and Alarm Messages

What Is in This Chapter

This chapter lists the types of events and alarms generated by the Cisco Catalyst Hub and provides any probable cause messages corresponding to these alarms.

Device Events and Alarms

Table 4-1 lists the SPECTRUM database directory paths (in bold) and the messages displayed for the Event Log and Alarm Manager when applicable.

Table 4-1. **Catalyst Switch Events and Alarms**

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event00010306 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has been cold started. (event [{e}])	**No probable cause message**.
CsEvFormat/Event00010307 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has been warm started. (event [{e}])	**No probable cause message**.

Table 4-1. **Catalyst Switch Events and Alarms (Continued)**

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event00010308 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected a communication Link Down. (event [{e}])	**CsPCause/Prob00010308** Communication link is down.
CsEvFormat/Event00010309 {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected a communication Link Up. (event [{e}])	**No probable cause message.**
CsEvFormat/Event0001030a {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected an Authentication Failure. (event [{e}])	**CsPCause/Prob0001030a** Authorization failure. Other user is trying to connect to device with an invalid community string.
CsEvFormat/Event0001030b {d "%w- %d %m-, %Y - %T"} - A(n) {t} device, named {m}, has detected an EGP Neighbor Loss. EGP Neighbor IP address is {0 1}. (event [{e}])	**CsPCause/Prob0001030b** Lost contact with EGP neighbor.
CsEvFormat/Event00010401 {d "%w- %d %m-, %Y - %T"} - Device {m} of type {t} is created with an IP address already used by another model. (event [{e}])	**CsPCause/Prob00010401** DUPLICATE IP ADDRESS The model has the same IP address as that of some other model.
CsEvFormat/Event00010402 {d "%w- %d %m-, %Y - %T"} - Device {m} of type {t} is created with a physical (Mac) address already used by another model. (event [{e}])	CsPCause/Prob00010402 DUPLICATE PHYSICAL ADDRESS The model has the same Physical address (Mac address) as that of some other model.
CsEvFormat/Event011c0000 {d "%w- %d %m-, %Y - %T"} - A Catalyst switch, {t} (name - {m}) has been reloaded. SystemUpTime = {I 1}. - (event [{e}])	**No probable cause message.**

Table 4-1. **Catalyst Switch Events and Alarms (Continued)**

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event011c0001 {d "%w- %d %m-, %Y - %T"} - A Catalyst switch, {t} (name - {m}) has reported the end of a TCP session. - (event [{e}])	**No probable cause message.**
CsEvFormat/Event011c0003 {d "%w- %d %m-, %Y - %T"} - Module {I 1} has been transitioned to the "Ok" state. - (event [{e}])	**No probable cause message.**
CsEvFormat/Event011c0004 {d "%w- %d %m-, %Y - %T"} - Module {I 1} has transitioned out of the "Ok" state. - (event [{e}])	**No probable cause message.**
CsEvFormat/Event011c0005 {d "%w- %d %m-, %Y - %T"} - The chassis' temp alarm is {T CatChasAlrm 1}, the chassis' Minor alarm is {T CatChasAlrm 2}, and the chassis' Major alarm is {T CatChasAlrm 3}. - (event [{e}])	**No probable cause message.**

Table 4-1.   **Catalyst Switch Events and Alarms (Continued)**

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event011c0006 {d "%w- %d %m-, %Y - %T"} - Device {m} of Type {t} reported A configuration revision number error notification which signifies that a device has incremented its vtpConfigRevNumberErrors counter. Generation of this notification is suppresse d if the vtpNotificationsEnabled has the value 'false'. The device must throttle the generation of consecutive vtpConfigRevNumberError notifications so that there is at least a five-second gap between notification of this type. When notification are throttled, they are dropped, not queued for sending at a future time. (Note that 'generating' a notification means sending to all configured recipients. managementDomainConfigRevNumb er = { I 1 }. (Event [{e}]).	**No probable cause message.**
CsEvFormat/Event011c0007 {d "%w- %d %m-, %Y - %T"} - Device {m} of Type {t} reported A configuration digest error notification which signifies that a device has incremented its vtpConfigDigestErrors counter. Generation of this notification is suppressed if the vtp NotificationsEnabled has the value 'false'. The device must throttle the generation of consecutive vtpConfigDigestError notifications so that there is at least a five-second gap between notification of this type. When notification are throttled, they are dropped, not queued for sending at a future time. (Note that 'generating' a notification means sending to all configured recipients.) managementDomainConfigRevNumb er = { I 1 }. (Event [{e}]).	**No probable cause message.**

Table 4-1.   Catalyst Switch Events and Alarms (Continued)

Message in the Event Log	Alarm View Probable Cause Message
CsEvFormat/Event011c0008 {d "%w- %d %m-, %Y - %T"} - Device {m} of Type {t} reported A VTP Server disabled notification. This trap is generated when the local system is no longer able to function as a VTP Server because the number of defined VLANs is greater than vtpMaxVlanStorage. Generation of this notification is suppressed if the vtpNotificationsEnabled has the value 'false'. managementDomainConfigRevNumber = { I 1 }, vtpMaxVlanStorage = {I 2}. (Event [{e}]).	A vtpServerDisabled trap was received from the device.
CsEvFormat/Event011c0009 {d "%w- %d %m-, %Y - %T"} - Device {m} of Type {t} reported A VTP MTU tooBig notification. This trap is generated when a VLAN's MTU size is larger than can be supported either by one or more of its trunk ports (the included vtpVlanState has the value 'mtuTooBigForTrunk' and the included vlanTrunkPortManagementDomain is for the first or only trunk port), or by the device itself (vtpVlanState has the value 'mtuTooBigForDevice' and any instance of vlanTrunkPortManagementDomain is included.) Generation of this notification is suppressed if the vtpNotificationsEnabled has the value 'false'. vlanTrunkPortManagementDomain = { I 1 }, vtpVlanState = { I 2 }. (Event [{e}]).	A vtpMtuTooBig trap was received from the device.

Chapter 5

Application View

What Is in This Chapter

This chapter describes the views and tables available for the following device-specific applications:

- *Catalyst Stack Application* (CATStackApp)
- *Discovery Application* (CiscoCDPApp)
- *Ethernet Application* (EthernetApp)

The Application view allows you to access increasingly detailed views of network information for the applications supported by this device.

Common Applications

This device supports the following common applications described in the ***MIB II Applications, Bridging Applications, and Miscellaneous Applications*** references.

- MIB-II (SNMP2_Agent)
    - IP (IP2_App)
    - System (System2_App)
    - ICMP (ICMP_App)
    - UDP (UDP2_App)
    - TCP (TCP2_App)

- Bridging
    - Gen Bridge App (Gen_Bridge_App)
    - Spanning Tree (Span_Tree_App)
    - Static (Static_App)
    - Transparent (Transparent_App)

- FDDI Application (rfc1512App)

Device Application View

This view shows the common and device-specific applications supported by this device and provides access to application-specific information.

See Chapter 1, *Introduction,* for information on *Accessing SPECTRUM Views*.

Figure 5-1 provides an example of an Application view in the icon mode. Figure 5-2 provides an example of an Application view in the list mode.

To change the display mode, select **View -> Mode -> List** or **Icon**.

Figure 5-1.   Device Application View (Icon Mode)
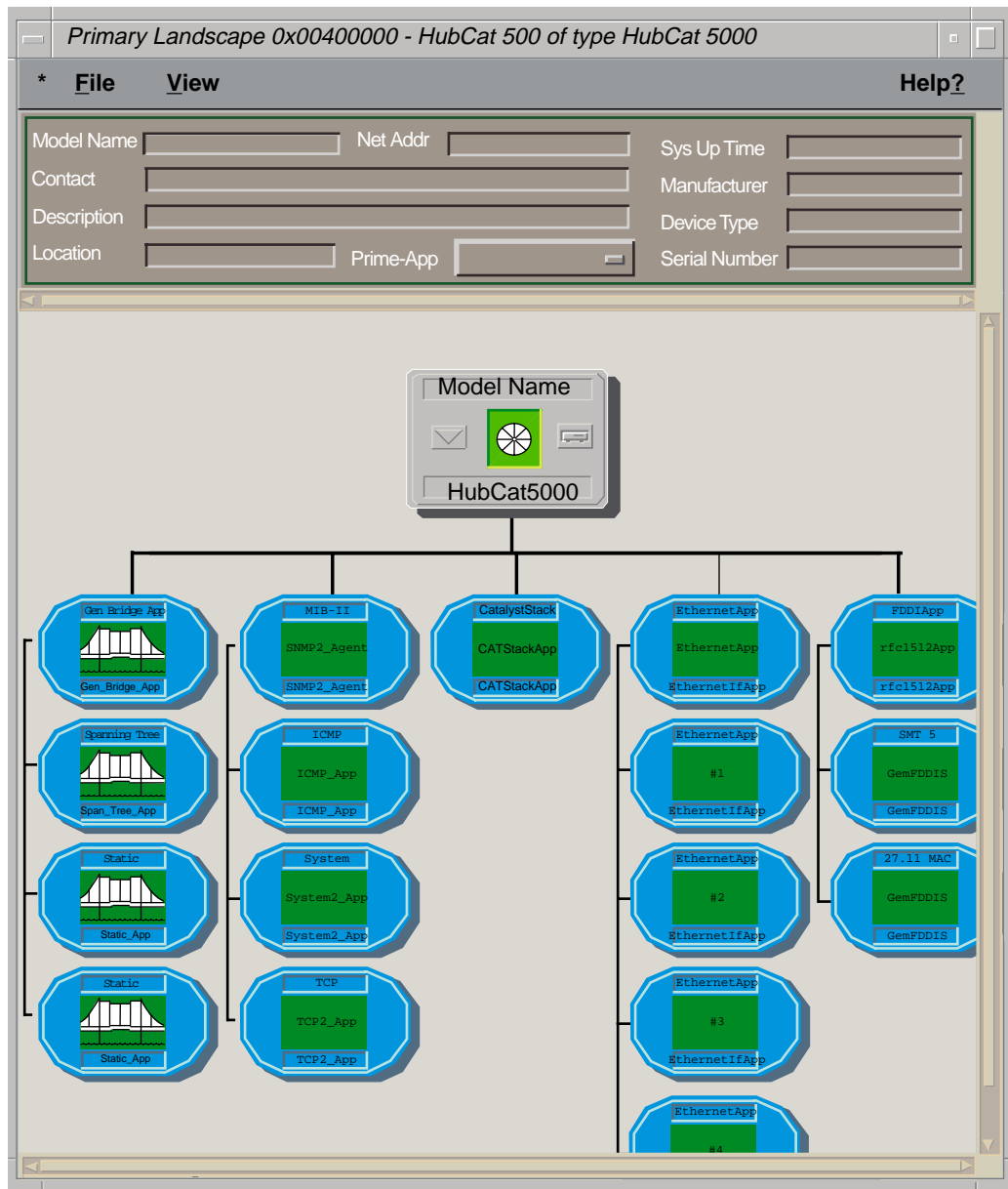
Figure 5-2. **Device Application View (List Mode)**
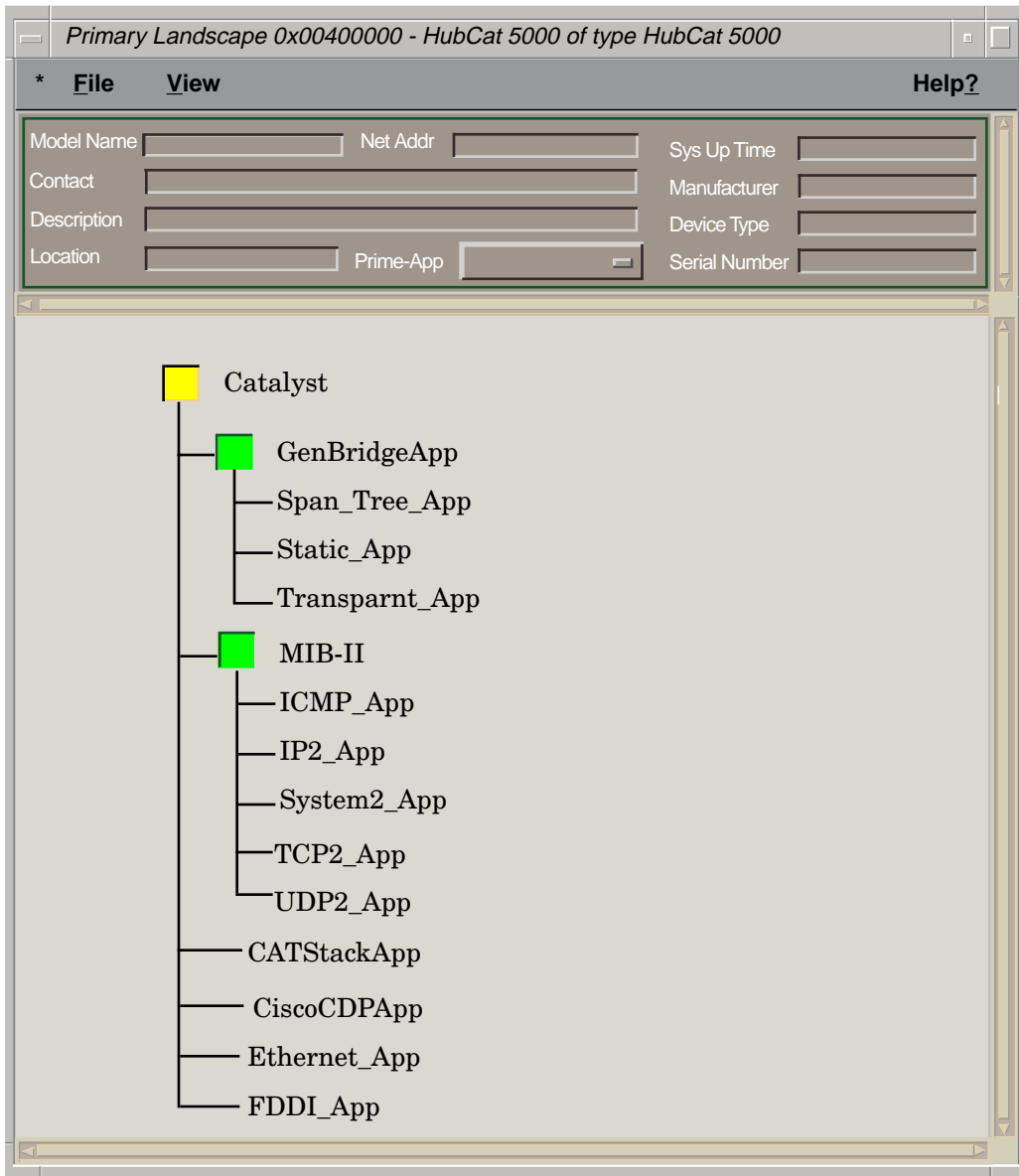
Catalyst Stack Application

The Catalyst Stack application supported by the Cisco Catalyst Hub is modeled in SPECTRUM with the CATStackApp Model Type. Table 5-1 describes each of the application-specific Icon Subviews menu selections available for the Catalyst Stack application.

Table 5-1. **Catalyst Stack Application-Specific Icon Subviews Menu Selections**

Menu Selection	Description
Configuration	Opens the Catalyst Stack Configuration view (Page 3-4).
Bridge/Router	Opens the *BRouter Information* view (Page 5-5).
Community Strings	Opens the *Community Strings View* (Page 5-8).
FDDI Ring	Opens the *FDDI Ring Table* (Page 5-9).
Filter	Opens the *Catalyst Filter Tables* (Page 5-10).
Monitor	Opens the *Monitor Information View* (Page 5-13).
TFTP	Opens the *Catalyst TFTP Information View* (Page 5-14).
Trap Receiver	Opens the *Catalyst Trap Receiver Table* (Page 5-15).
VLan	Opens the *Catalyst VLan Table* (Page 5-16).
VLan Ports	Opens the *VLan Ports Table* (Page 5-16).
VLan_Configure	Opens the *Catalyst VLan Manager*, (page 5-16) which allows you to add or remove VLANs and change the VLAN configuration of each port.
Model Information	Opens the *Model Information view* described in the **SPECTRUM Views** reference.

BRouter Information

To access the BRouter Information view, do the following:

1. Within the Application view, highlight the Catalyst Stack Application icon.

2. From the Icon Subviews menu, select **Bridge/Router**.

This view provides the following information:

Enable Rip

Allows you to enable or disable the RIP protocol on the Catalyst Switch.

Enable IP Frag

Allows you to enable or disable IP Fragmentation on the Catalyst Switch.

Enable Spantree

Allows you to enable or disable the Spanning Tree protocol on the Catalyst Switch.

Enable Giant Check

Allows you to enable or disable the Catalyst Switch's ability to give special handling to giant packets.

Enable Unreachables

Allows you to select whether the Catalyst Switch is able to send ICMP unreachable messages.

CAM Aging Time
Displays the aging time for the CAM table.

CAM Mode

Allows you to select whether the CAM module is operating in Filtering Mode or Forwarding Mode.

IPX SNAP To Ether

Allows you to select the default translation for IPX packets when bridging from FDDI SNAP to Ethernet. Possible options are SNAP, EthernetII, ISO8023, and RAW8023.

IPX 8022 To Ether

Allows you to select the default translation for IPX packets when bridging from FDDI 802.2 to Ethernet. Possible options are SNAP, EthernetII, ISO8023, and RAW8023.

IPX 8023RAW To FDDI

Allows you to select the default translation for IPX packets when bridging from Ethernet 802.3 Raw to FDDI. Possible options are SNAP and ISO8022.

Ethernet Receive Max
Displays the maximum number of Ethernet receive buffers processed at one time per port.

Ethernet Transmit Max
Displays the maximum number of Ethernet transmit buffers processed at one time per port.

FDDI Receive Max
Displays the maximum number of FDDI receive buffers processed at one time per port.

FDDI Transmit Max
Displays the maximum number of FDDI transmit buffers processed at one time per port.

BRouter Ports

Allows you to access the Catalyst Stack BRouter Ports Table. Table 5-2 provides definitions of the fields in the BRouter Ports Table.

Table 5-2. **BRouter Ports Table Field Definitions**

Column Heading	Definition
Module	The unique integer identifier of the module where this port is located. This number is the same as the slot number in which the module is installed.
Port	The unique integer identifier of this port within its module. This value is determined by the location of the port on the module.
Route Group	The IP route group to which this port belongs.
IP Addr	The IP address of this port.
Net Mask	The subnet mask of this port.
Broadcast	The broadcast address of this port.
Bridge Group	The bridge group to which this port belongs.

Community Strings

This view lists the community strings and allows you to change the access levels. When an SNMP message is received by the Catalyst Switch, the message's community string is compared with this table to determine the access rights of the message's sender.

To access this view, do the following:

1. Within the Application view, highlight the CATStackApp icon (icon mode) or model type name (list mode).

2. From the Icon Subviews menu, select **Community Strings**.

Table 5-3 lists the possible Community String entries.

Table 5-3.   **Community Strings View Access Levels**

Access Level	Description
Read Only	Allows read privileges only.
Read Write	No write privileges to the Community Strings Table only.
Read Write	Allows full read-write privileges.

FDDI Ring Table

This table lists the nodes in the FDDI ring(s) to which the device is attached. Double-click a table entry to access an entry-specific FDDI Ring table that allows you to modify the information displayed in the table.

To access this table, do the following:

1. Within the Application view, highlight the CATStackApp icon (icon mode) or model type name (list mode).

2. From the Icon Subviews menu, select **FDDI Ring**.

The FDDI Ring Table and its corresponding entry-specific views provide the following information:

SMT Index
Displays the SMT index number that identifies this ring.

Address
Displays the MAC address of this node in the ring.

Next Address
Displays the MAC address of the next node in the ring.

Information can be sorted, listed in ascending or descending order, printed, or updated.

Catalyst Filter Tables

The following series of views are accessed in the order listed and are described below:

- MAC table/Vendor table
- Protocol table/Test table
- Port table

To access the views listed above, do the following:

1. Within the Application view, highlight the CATStackApp icon (icon mode) or model type name (list mode).

2. From the Icon Subviews menu, select **Filter**.

3. Click the **More** button at the bottom of each view to access the next table view in the series.

MAC Table

This area of the Catalyst Filter Tables contains a list of MAC filter entries. Double-click a table entry to access an entry-specific Filter MAC Table view. This view allows you to modify the information presented in the table. The MAC Table and its corresponding entry-specific views provide the following information:

Module
Displays the unique integer identifier of the module where this port is located. This number is the same as the slot number in which the module is installed.

Port
Displays the unique integer identifier of this port within its module. This value is determined by the location of the port on the module.

Address
Displays the MAC address to which the source and destination MAC addresses of packets are compared. If the source or destination MAC address equals this value, a match occurs. If "Deny" is specified in the Type field and a match occurs, the packet is dropped. If at least one MAC address filter is specified with "Permit" and a match does not occur, the packet is dropped.

Type
Displays the type of action this filter will cause. Selecting "Invalid" removes this filter from the table. Selecting "Deny" causes packets whose source or destination address matches the MAC address specified in the Address field to be dropped. Selecting "Permit" causes all packets whose source or destination address does not match the address specified in the Address field to be dropped.

Vendor Table

This area of the Filter Tables view contains a list of vendor ID filter entries. Double-click a table entry to access an entry-specific Filter Vendor Table view that allows you to modify the information presented in the table. The Vendor Table and its corresponding entry-specific views provide the following information:

Module
Displays the unique integer identifier of the module where this port is located. This number is the same as the slot number in which the module is installed.

Port
Displays the unique integer identifier of this port within its module. This value is determined by the location of the port on the module.

ID
Displays the vendor ID portion of a MAC address. If the source or destination address has the same vendor ID, a match occurs. If "Deny" is specified in the Type field and a match occurs, the packet is dropped. If at least one vendor ID filter is specified with "Permit" and a match does not occur, the packet is dropped.

Type
Displays the type of action this filter will cause. Selecting "Invalid" removes this filter from the table. Selecting "Deny" causes packets whose source or destination vendor ID matches the vendor ID specified in the ID field to be dropped. Selecting "Permit" causes all packets whose vendor ID does not match the ID specified in the ID field to be dropped.

Protocol Table

The Protocol Table contains a list of protocol filter entries. Double-click a table entry to access an entry-specific Filter Protocol Table view that allows you to modify the information presented in the table. The Protocol Table and its corresponding entry-specific views provide the following information:

Module
Displays the unique integer identifier of the module where this port is located. This number is the same as the slot number in which the module is installed.

Port
Displays the unique integer identifier of this port within its module. This value is determined by the location of the port on the module.

Value
Displays the 16-bit protocol value. If the packet's Type field or the packet's DSAP/SSAP field is equal to this value, a match occurs. If Deny is specified and a match occurs, the packet is dropped. If at least one protocol type filter is specified with Permit and a match does not occur, the packet is dropped.

Type
Displays the type of action this filter will cause. Selecting Invalid removes this filter from the table. Selecting Deny causes packets whose Type field or DSAP/SSAP field matches the value specified in the Value field to be dropped. Selecting Permit causes all packets whose Type field or DSAP/SSAP field does not match the value specified in the Value field to be dropped.

Test Table

The Test Table contains a list of test filter entries. Double-click a table entry to access an entry-specific Filter Test Table view that allows you to modify the information presented in the table. The Test Table and its corresponding entry-specific views provide the following information:

Module
Displays the unique integer identifier of the module where this port is located. This number is the same as the slot number in which the module is installed.

Port
Displays the unique integer identifier of this port within its module. This value is determined by the location of the port on the module.

Index
Displays an index value that uniquely identifies a test for a particular module and port (Test Table only).

Type
Validates or shows a new module, port, or test index (when one exists).

Offset
Displays a byte offset into a packet. Must be a 32-bit word aligned offset, i.e., 0, 4, 8, etc.

Value
A 32-bit value to be compared against the packet location specified in the Offset field (Entry-specific view only).

Mask
An internet mask the server uses to distinguish internet address that can be reached directly from those that must be reached via an IP gateway.

Port Table

The Port Table contains a list of port filter entries. Double-click a table entry to access an entry-specific Filter Port Table view that allows you to modify the information presented in the table. The Port Table and its corresponding entry-specific views provide the following information:

Module
Displays the unique integer identifier of the module where this port is located. This number is the same as the slot number in which the module is installed.

Port
Displays the unique integer identifier of this port within its module. This value is determined by the location of the port on the module.

Throttle
Displays the maximum number of broadcast packets per second allowed on this port. Packets in excess of this limit are dropped. A value of zero indicates that unlimited broadcast packets are allowed.

Monitor Information View

To access the Monitor Information view, do the following:

1. Within the Application view, highlight the Catalyst Stack Application icon.

2. From the Icon Subviews menu, select **Monitor**.

This view provides the following information:

Source Module
Displays the unique integer identifier of the module where the monitoring source port is located. A value of zero indicates that the source port is really a source Virtual LAN number.

Source Port
Displays the unique integer identifier of the monitoring source port within its module or the monitoring source virtual LAN.

Destination Module
Displays the unique integer identifier of the module where the monitoring destination port is located.

Destination Port
Displays the unique integer identifier of the monitoring destination port within its module.

Direction

Allows you to select the type of packets that will be monitored at the source port. Possible selections are: Transmit, Receive, and TransmitReceive.

Enable

Indicates whether port monitoring is in progress. Choosing Enabled begins port monitoring. Choosing disabled ends port monitoring.

Catalyst TFTP Information View

This view allows you to configure and initiate file transfers to and from the device. To access the Catalyst TFTP Information view, do the following:

1. Within the Application view, highlight the CATStackApp icon (icon mode) or model type name (list mode).

2. From the Icon Subviews menu, select **TFTP**.

The Catalyst TFTP Information view provides the following information:

Host
Displays the operator-defined name of the source or destination host for this file transfer.

File
Displays the operator-defined name of the file for this file transfer.

Module
Displays the operator-defined number of the module to or from which code or configuration information is being transferred.

Action
This button allows you to select the type of transfer to be carried out and to initiate the transfer. Possible actions are listed in Table 5-4.

Table 5-4.   **TFTP Transfer Action Types**

Action	Definition
Other	Default value - None of the following.
DownLoadConfig	Receive configuration information from the selected host and file.
UpLoadConfig	Send configuration information to the selected host and file.
DownLoadSw	Receive a software image from the selected host and file.
UpLoadSw	Send a software image to the selected host and file.
DownLoadFw	Receive a firmware image from the selected host and file.
UpLoadFw	Send a firmware image to the selected host and file.

Catalyst Trap Receiver Table

This table lists the addresses of Network Management Stations that should receive trap messages from the Catalyst Stack Application. Double-click a table entry to access the entry-specific Catalyst Trap Receiver table, which allows you to change the items displayed in the table.

To access the Catalyst Trap Receiver table, do the following:

1. Within the Application view, highlight the CATStackApp icon (icon mode) or model type name (list mode).

2. From the Icon Subviews menu, select **Trap Receiver**.

The Catalyst Trap Receiver table provides the following information:

The Trap Receiver Table and its corresponding entry-specific views provide the following information:

Type
Displays the status of this entry. Setting this value to "Invalid" removes the corresponding entry from the Trap Receiver Table. To add a new entry to the Trap Receiver Table, set this value to "Valid" for an IP address that is not already in the table.

Addr
Displays the IP address of the Network Management Station receiving the traps.

Community
Displays the community string used for trap messages sent to this trap receiver.

Catalyst VLan Table

The Catalyst VLan table provides a list of Virtual LAN entries, which are determined by the LANs within the system. To access the Catalyst VLan table, do the following:

1. Within the Application view, highlight the CATStackApp icon (icon mode) or model type name (list mode).

2. From the Icon Subviews menu, select **VLan**.

The VLan table view provides the following information:

VLan Index
Identifies the Virtual LAN associated with this module port.

Spanning Tree
Indicates whether the Spanning Tree protocol is enabled for this Virtual LAN. Possible values are Enabled and Disabled.

VLan Ports Table

The Catalyst VLan Ports Table provides a list of Virtual LAN port entries, which are determined by the number of modules in the chassis and by the port in each module. To access the Catalyst VLan Ports table do the following:

1. Within the Application view, highlight the CATStackApp icon (icon mode) or model type name (list mode).

2. From the Icon Subviews menu, select **VLan Ports**.

The VLan view provides the following information:

Module
Displays the index value that uniquely identifies this port within this module.

Port
Displays the port number within the identified module.

Vlan
Displays the Virtual LAN to which this port is attached.

Switch Level
Displays the switch priority level the port uses to access the switching media. If the port is functioning correctly, the "Normal" value appears.

Catalyst VLan Manager

This view provides a graphical display of the device's module and port configuration, and indicates the vlan to which each port is assigned. This view also allows you to perform the following functions:

- Selecting a VLAN
- Adding a VLAN
- Changing a Port's VLAN
- Removing a VLAN

To Access the Vlan Configuration Manager view, do the following:

1. Within the Application view, highlight the CATStackApp icon.

2. From the Icon Subviews menu, select **VLan_Configure**.

Selecting a VLan

Within the VLAN panel (Figure 5-3) of the Catalyst VLan Manager view, click on the VLAN number to display or assign ports. The VLAN number icon and the ports assigned to that VLAN will be highlighted.

Figure 5-3. **VLAN Panel**

VLAN Number Icon

1	44 ports
2	20 ports
3	24 ports
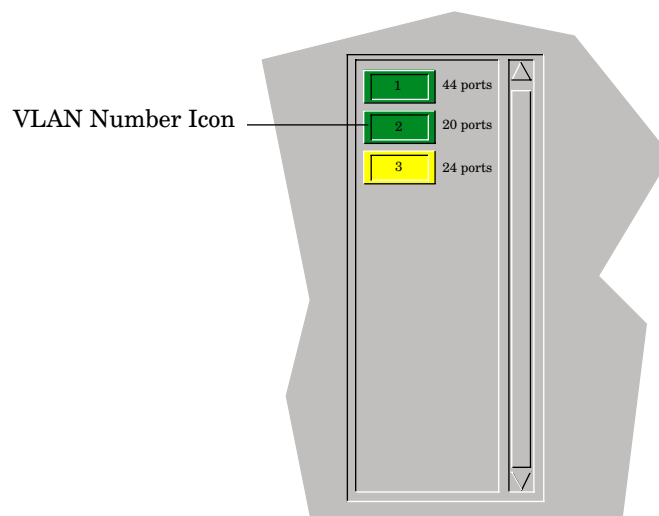
Adding a VLAN

Within the VLAN panel, enter the number of the VLAN you would like to add. Click the "Add" button. A button representing the new VLAN will appear in the VLAN panel.

Figure 5-4. **Add/Remove Buttons**
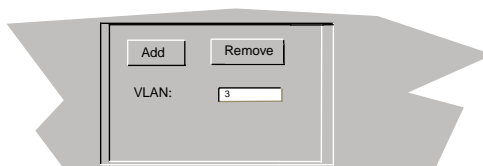
Changing a Port's VLAN

To select a VLAN to add a port to, highlight the VLAN number icon in the VLAN panel. Double click on the port icon which you would like to add to the VLAN. The port icon will be highlighted to indicate the change. The port counts, next to the VLAN icons, should accurately reflect the number of ports assigned to each VLAN.

Removing a VLAN

To remove a VLAN, make sure there are no ports assigned to the VLAN. Highlight that VLAN's number icon. Click the "Remove" button. The VLAN will be removed from the VLAN panel.

Discovery Application

This section describes the Discovery Application supported by the cisco Catalyst Hub. The model type name for this application is CiscoCDPApp. Table 5-5 describes each of the application-specific Icon Subviews menu selections available for the Discovery Application.

Table 5-5. **Catalyst Stack Application-Specific Icon Subviews Menu Selections**

Menu Selection	Description
Cache	Opens the Discovery Cache Table view, described later in this chapter.
Interfaces	Opens the Interface Discovery Status Table view, described later in this chapter.
Model Information View	Opens the Model Information view described in the ***SPECTRUM Views*** reference.

Discovery Cache Table View

This view provides the information recieved by the Cisco Discovery Protocol (CDP). It provides the following information:

Type
Displays the type of address contained in the corresponding **Address** field described below.

Address
Displays the network layer of the device's SNMP-agent as reported in the most recent CDP message.

Device ID
Displays the Device-ID. A zero indicates no Device-ID was reported.

Device Port
Displays the Port-ID. A zero indicates no Port-ID was reported.

Platform
Displays the devices hardware platform.

Capabilities
Displays the devices functional capabilities.

Interface Discovery Status Table

This table contains the status of Cisco Discovery Protocol on the device's interfaces. It provides the following information:

Discovery

Displays information about the type of devices in the network, configuration information about the links connecting those devices, and the number of interfaces within each device.

Group
Displays the group number of the repeater port which corresponds to this interface.

Port
Displays the port number of the repeater port which corresponds to this interface.

Interval
Displays the interval at which the CDP messages are to be generated on this interface. The default value is 60 seconds.

Ethernet Application

This application provides access to the application-specific Detail view.

To access the Detail view, select **Detail** from the Icon Subview menu. This view provides access to three pie charts with performance statistics. For more information about the frame or transmit error performance statistics, refer to ***How to Manage Your Network with SPECTRUM***.

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